

New Business Development Percolator to Advance Innovation Using University and National Labs Intellectual Property

Situation and opportunity

Commercialization of university research begins with connecting market needs to enabling technologies and building a concept that can be tested and validated.

The ability of American companies to internally develop and commercialize technology is being weakened by retirements and workforce reductions of skilled and experienced researchers and intrapreneurs. At the same time, collaborative development practices and open innovation are becoming more accepted and are growing in use.

Universities and National Laboratories have generated and accumulated a considerable amount technology and intellectual property (IP). University-industry partnerships are getting university research into the marketplace, but are necessarily specific to the university-company relationship. Several online databases of university IP are available for individual searching and licensing negotiation.

A core activity in new business development is connecting technology to market needs, creating the concept and value proposition, and addressing critical issues. New business development has more dimensions than problem-solution matching facilitated by intermediaries. Connecting effective innovation practices and successful collaboration and development models would provide a new channel for university innovations to form business concepts for incubation and commercial development that are aligned with companies' growth and diversification strategies. Infrastructure exists to connect university research to industrial and consumer needs and need not be limited to the resources in a given geographic region.

The concept

Networking the many databases of university intellectual property forms the supply side. Companies seeking new product and business opportunities provide the demand side. Advanced information search capability would be used to screen and match university technologies with market needs and product development targets stated by companies. Technology solution intermediaries that link experts to problems will provide experienced independent new business development professionals to take the next step and create solutions and business concepts using the matched technologies. Let the assigned team investigate the technology matches and advance the initial concept to develop a proposed solution and value proposition. They would also prepare the business model, identifying potential partners, competitive products, complimentary technology, and critical issues. The organization seeking the solution or new business opportunity grants the reward and implements the solution.

Design drivers

- Participant partner organizations continue to operate their business models.
- This does not displace university-industry alliances or sponsored research. It adds another channel for collaboration.
- The innovation is assembling the widest network of available university technologies, sorting through warehouses of IP, making the initial connections between commercial needs and technology, and having experienced new business development professionals think through and build the concept.

Organizational model

This concept would best be organized under the leadership of a non-commercial, mission-driven organization, for example, the Association of University Technology Managers, The Kauffman Foundation, or the University-Industry Development Partnership. Alternatively or concurrently, a government sponsored program could serve the same role.

The neutral non-profit organization would provide the organizational umbrella and single point of contact to coordinate the network, facilitate introductions, manage relationships, and set business rules. The end result of this innovation and commercialization initiative is an increased flow of university research and innovations into the marketplace to drive economic growth.

Operating model

Solution must involve one or more licensable university or National Lab technologies.

Technologies will use standardized sets of licensing terms and conditions for university IP to expedite the licensing process and reduce the uncertainties of negotiation. (UIDP has tools and approaches to streamline university-industry agreements.)

Companies seeking solutions and new business opportunities establish a reward level through solution intermediaries that provides incentive to business development professionals and funds operations.

Stakeholders

Universities: IP will receive more depth consideration and investigation by the concept team with a selected set of IP matched to the market need.

Solution intermediaries: Additional business and an increased network of experts and technologies.

New business development people: Incentives provided by companies through solution intermediaries.

Industry: External source of solutions and business concepts. Would allow smaller companies and those without specific university alliances to incorporate university research in growing their business.

Non-profit organization: New model to advance innovation based on university or federally funded IP.

Potential collaborators

University intellectual property is already listed on most research university technology transfer web sites and by aggregators such as the iBridge Network, Flintbox, and Knowledge Express. Inteum C/S is a leading information management system for intellectual property management and technology transfer offices. Intellectual Property Exchange seeks to establish a public IP exchange. Other companies are in the business of marketing IP and providing venture capital.

A marketplace for incentive-based solution finding is available through technology solution intermediaries such as yet2.com, Innocentive, Nine Sigma, and TekScout. These organizations have networks of subject matter experts. Another organization for experienced new business development people is YourEncore, which provides management structure including confidentiality agreements and project management.

The initial matching of technology to market need will require advanced information technology. Google excels in organizing information and making it accessible and useful and might enable the technology-market need matching.

There are a number of academic and consulting organizations that might be inspired to contribute their insights and guidance. The Product Development and Management Association (www.pdma.org) is a thought leader in new product development and innovation.

Contact information

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



Incubators for Economic Development

The role of regional state colleges and universities in driving new, high-impact ventures

By Janine Janosky, Renee Babcock and Robert Brentin

March 2009

UNIVERSITY-BASED RESEARCH is responsible for many significant and remarkable discoveries, stimulating breakthrough products and technologies that have improved quality of life and created jobs and new industries. To maximize the results of university-produced research and technology, it is important for higher ed administrators to engage the broad reach of multiple regional state colleges and universities in catalyzing and incubating efforts that will lead to new, high-impact ventures.

State colleges and universities located in urban areas offer an ideal route for discoveries and incubation of new businesses, as there are ample resources. Additionally, when universities are in close geographical proximity and combine resources, their ability to provide a rich, diverse, collaborative network of new business development is enhanced, as evidenced by the University Research Corridor in Michigan.

There is often a disconnect between research results at the university and the community at large.

The combined patent, licensing revenue, and start-up company statistics from the three universities that form the URC—Michigan State, the University of Michigan, and Wayne State University—are impressive. But an urban university is only one of many economic resources within the overall metropolitan area. Thus, the proportionate impact of a university in an urban area compared to other resources impacting economic development should be considered.

Traditionally, critical mass has been viewed as a new business development requirement. But through our globally connected world, what the smaller or geographically isolated university lacks in resources for the implementation phase can be gained or accessed through collaborative relationships with industry or other universities. So the opportunity for economic impact from universities in rural settings is real and viable. Indeed, their impact can be even more profound than that of universities located in an urban setting, as the rural universities may often be the only or one of the only large institutions in the geographic setting.

CHALLENGES FOR SMALLER COMMUNITIES

States face tough economic times. In urban settings there are many incentives for companies to locate and offer jobs. That's not necessarily the case for smaller communities. And while some smaller communities may be home to large universities, there's often a disconnect between the information derived from university-conducted research and the community at large. Researchers may also overlook the possibility of applying their work to affect their local communities positively.

Some might suggest that it's more efficient to address ideas and innovations originating in urban centers in the same way that companies focus resources in serving their top customers. But with technological development, increased competition, and globalization, it is practical and essential to develop goods and services for geographically and economically extended markets.

Chris Anderson, editor-in-chief of Wired magazine and author of the book *The Long Tail: Why the Future of Business Is Selling Less of More* (Hyperion, 2006), notes that our culture and economy are

increasingly shifting away from a focus on a relatively small number of “hits” (mainstream products and markets) at the head of the demand curve and toward a huge number of niches in the tail. Extrapolating from that premise, the sources for ideas should be as numerous and diverse as the consumption side of the equation. The harvesting and incubation of those ideas requires a distributed expertise network, a role that regional colleges and universities are well suited to address.

Several regional state institutions have successful traction in moving research into the commercial arena. Even with modest research and development budgets, they have succeeded through utilizing a combination of partnerships, incentives, and federal and local funding. Business Week highlighted several examples of smaller universities that have been successful in entrepreneurship initiatives in its October 2007 article “Small Schools’ Big Tech Dreams.” Iowa State University ranked second in the nation in the number of licenses for inventions executed; the University of Akron’s Research Foundation funds start-ups as wholly owned, for-profit subsidiaries; and The University of North Carolina at Charlotte launches two to five start-ups annually, ranking number two for patent applications, relative to its budget.

Because of their strong connection to local economies, regional IHEs are capable of providing licenses or seed funding and office space, with all parties aiming to contribute to the economic development of the state and region. Universities benefit from technology transfer and commercialization activities by attracting and retaining top academicians as well as gaining from license income.

Communities and states that provide the entrepreneurial infrastructure in which university technology transfer and commercialization can flourish benefit from the resulting start-ups and business expansions, including radically new technologies for growth sectors. Also, the possibilities for stimulating economic growth can potentially be even more far-reaching if universities form alliances.

SOLUTION

The April 2008 Small Business Association of Michigan report on commercialization and entrepreneurship programs at Michigan higher ed institutions identifies five categories of commercialization and entrepreneurship initiatives for promoting economic development: (1) technology transfer, (2) incubators, (3) university-industry commercialization programs, (4) entrepreneurship education, and (5) economic development and outreach.

Central Michigan, the fourth-largest public university in the state, has positioned itself in many of these areas. As the major university for a large segment of Michigan, CMU has a unique opportunity to provide a mechanism for economic development in a broad geographical area. CMU’s Office of Research and Sponsored Programs created an office to encourage technology transfer and commercialization of faculty, staff, and student projects, as well as to develop connections with local entrepreneurs and companies.

To build on the alliances of local industry and position itself as a center for the incubation of economic development, the CMU Research Corporation provides a single point of contact for entrepreneurs and businesses who see the potential of harnessing the university’s intellectual, material, and technological resources.

In an effort to provide entrepreneurship education, CMU offers an entrepreneurship major as well as hosts the LaBelle Entrepreneurial Center, a focal point for new business development and educational activities.

When universities team together, the possibilities for economic impact are profound.

To further support this mission, CMU actively encourages scholarly endeavors among its faculty, staff, and students (the school was named a top 20 U.S. research institution and ranked as the 10th most productive research university in the nation among comparably sized universities). Though the economic impact of schools such as CMU has been substantial, when universities team together the possibilities for impact are even more profound.

To capitalize on the strengths of multiple smaller universities, CMU has joined forces with Eastern Michigan University, Michigan Technological University, Oakland University, Ferris State University, and Lake Superior State University to create the Multi-University Technological and Expertise Assets Management for Enterprise Development (U-TEAMED). The effort expands the utilization of research and intellectual property assets at IHEs and public and private research organizations by the private sector and increases technological collaborations. The primary goal: advance the research and commercialization goals of each participating institution through leveraging the synergistic effect of technical collaboration and through actively promoting each institution's research and intellectual property assets. Combined, this team has outperformed the largest universities on invention disclosures, licenses, and start-up companies formed.

Just as larger urban universities have joined to create incubation centers or entrepreneurial zones to encourage collaboration between university and community in strengthening and growing area economic development, regional state IHEs can use the same strategy to have a large impact in a small community or over a large geographic region.

MOVING FORWARD

Social, economic, and technological growth have set the stage for regional state IHEs to take an increasingly larger role in new business incubation. Individual universities and their specific areas of expertise feed a collaborative network for discoveries and new business development. Connecting universities and communities is a key to initiating and spreading economic development throughout the country.

It is simply good business practice to garner and leverage the broad reach of regional state colleges and universities to catalyze and incubate discoveries and entrepreneurial efforts that will lead to new, high-impact ventures.

At Central Michigan University, Janine E. Janosky is vice provost for research, Renee L. Babcock is director of research, and Robert P. Brentin is commercialization coordinator.

Resources

Central Michigan University's LaBelle Entrepreneurial Center,
<http://www.cba.cmich.edu/lec>

Central Michigan University Research Corporation, <http://www.cmurc.com>

Small Business Association of Michigan report,
<http://www.sbam.org/content.php?id=976>

University Research Corridor,
<http://www.urcmich.org>

U-TEAMED,
www.michiganlink.org/uteamed.php

<http://www.universitybusiness.com/viewarticle.aspx?articleid=1245&p=2#0>